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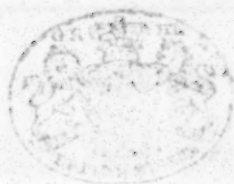
R E M A R K S
ON THE
PRESENT DEFECTIVE STATE
OF
F I R E - A R M S,
S H E W I N G
The Danger to those who carry them:
TOGETHER WITH
AN EXPLANATION
O F A N E W L Y I N V E N T E D
PATENT GUN-LOCK,
B Y W H I C H
All the present DISADVANTAGES are removed,
A N D
Simplicity, Security, and Durability substituted.

By G. BOLTON, Esq.

L O N D O N :
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NEAR WHITEHALL.

1795.

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TO THE
K I N G,

SIRE,

THE following pages, which I most humbly submit to YOUR MAJESTY's perusal, contain a description of an improved gun-lock, and remarks on fire-arms.---I am well assured I could not have laid them before a more competent judge than YOUR MAJESTY, and I am willing to flatter myself, as the improvement must be of great utility to the army and YOUR MAJESTY's subjects in general, that I shall have the happiness of meeting with YOUR MAJESTY's approval of my endeavors, in thus attempting to be of use to my country.-----I am extremely sensible of the high honor YOUR MAJESTY did me many
a years

years ago, in intrusting several parts of education of the Royal Family to my care: the unremitted exertions I have made in the discharge of that important duty, I have the satisfaction to know have met with the approbation of YOUR MAJESTY, the QUEEN and PRINCESSES: and here, I ought to acknowledge that most gracious reception and condescending attention I have ever met with from the Royal Family, whose readiness on all occasions, in expressing their sentiments with regard to my services, have made me feel, independently of being a faithful subject, the greatest attachment-----Indeed, such is the amiableness of disposition and truly refined manners of the Princesses, that it is only justice to say, their Royal Highnesses are patterns of virtue and excellence, and are an ornament to the country.

At a very early time of life, the natural bent of my inclination was for the army, and I received instruction proper for that situation ;

tion ; but the honor and pleasure that must attend on having the care of any part of the education of the Royal Family, was too great a temptation for me to withstand ; I therefore instantly obeyed YOUR MAJESTY'S commands.

In the leisure time I have had from my duty, my attention has constantly been directed to such improvements as I knew could not fail of being of the utmost utility in the army, were I so fortunate as to succeed.-----The object, that ever struck me most forcibly, was the absolute necessity of a removal of the defects that have ever attended fire-arms ; since the courage and discipline even of British soldiers can not much avail when they take the field against an enemy, if their muskets fail : for frequently it happens, that the musketry is the only thing that can be depended on.-----The more I reflected on this subject, the more I was convinced of its great importance.

YOUR MAJESTY is well acquainted, that many accidents happen to soldiers from muskets going off accidentally; also, that in action the number of defective pieces is so very great, that it becomes an object of the most serious nature, and of great national concern. In attempting to make improvements to answer the purposes before mentioned, neither trouble nor expence have deterred me: I felt a constant hope, that I should one day succeed, and indulged myself in the pleasing thought, that if ever I should be so fortunate, great addition would be made to YOUR MAJESTY's happiness, because it would give comfort and safety to my countrymen. This was a conclusion that I had a right to draw from many years knowledge of YOUR MAJESTY's great goodness of heart; ~~and~~ whose exemplary life of virtue, as the best of husbands, fathers, and kings, is well known to all ranks of YOUR MAJESTY's people, whose happiness has ever been YOUR MAJESTY's first thought, most sincere

cere wish, and constant study.----The army has ever met with YOUR MAJESTY's kind attention ; and while YOUR MAJESTY admired the true native courage of Britons, a painful sensation for the loss of those brave men from accidents, to which they were subjected by the use of bad arms, has too often intervened.---The improvement I have made, will, I trust, not only prevent such accidents, but will also totally remove the soldier from that situation, which I know, ever gave YOUR MAJESTY real concern---For, now, instead of a soldier remaining an useless spectator, exposed to the enemy, without being able to annoy him ; he may take the field fully convinced that his musquet may be fired a whole day together, and that he will have the opportunity, which every brave soldier wishes for, that of shewing his attachment to his king and country-----YOUR MAJESTY's knowledge of military affairs renders it unnecessary for me to point out the very great superiority
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that must attend YOUR MAJESTY's arms from this improvement. I will only beg leave to mention, that that large portion of an army, which, in a short time after the beginning of an engagement, must become useless from the present defective arms, will have the effect of a reinforcement equal to its number.-----This improvement is not confined to the army alone: its advantages may be had in the naval service, as the lock may be applied either to the smallest pistol or the largest cannon.

Improvements of the nature of these that I have now the honor to lay before YOUR MAJESTY, give to the possessor a decided superiority. It is therefore but reasonable to infer, that actions will be of shorter duration, which may be the means of saving much human blood. May the advantages that it is presumed will arise from this improvement, be the means of more effectually defending YOUR MAJESTY and the country from all enemies,

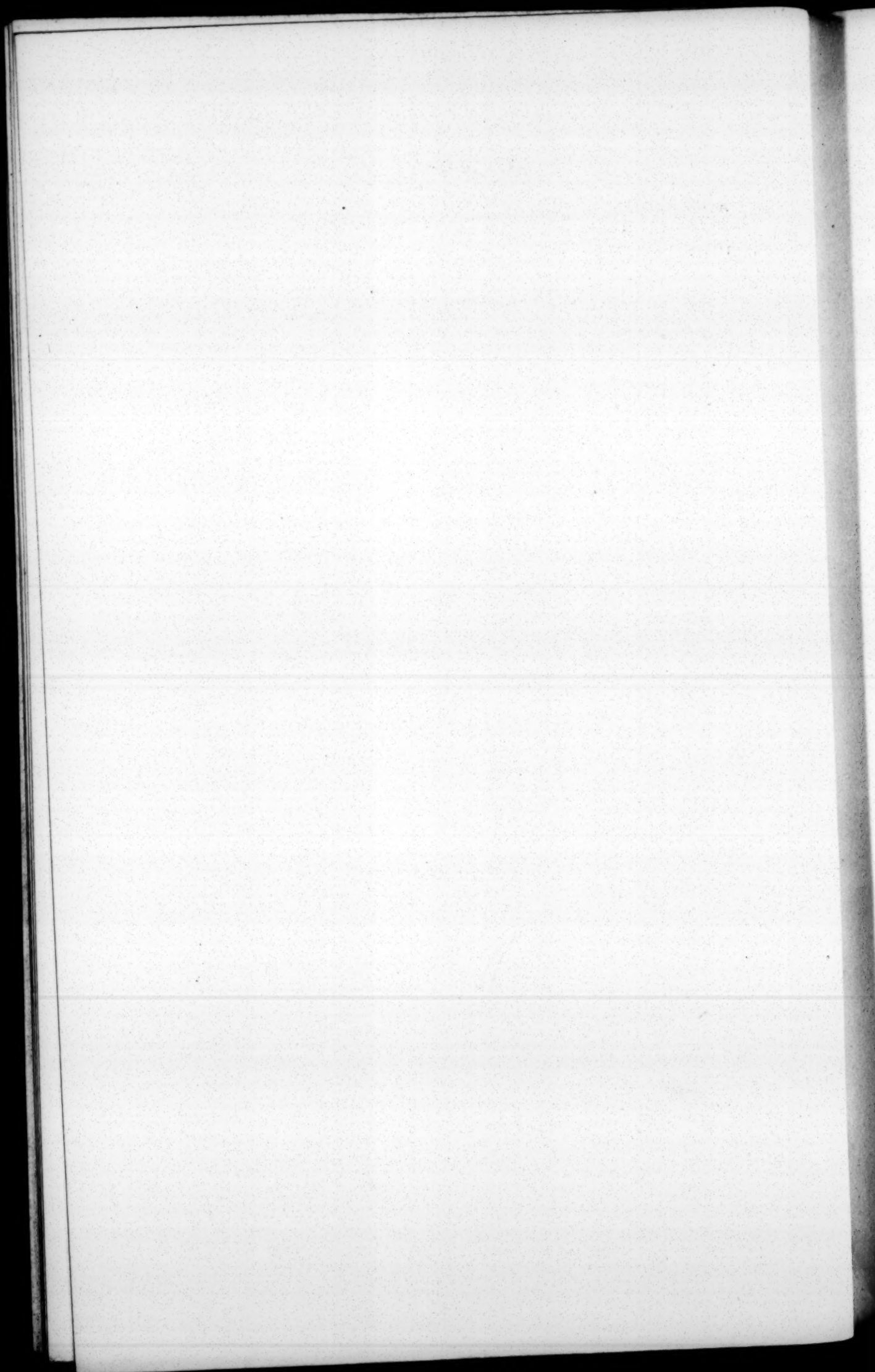
enemies, and accelerate the completion of
YOUR MAJESTY's wish, the blessings of an
honorable and permanent peace to the nation.
And may the SUPREME BEING, in whose
disposal are all the events of this transitory
life, guard and protect YOUR MAJESTY, the
QUEEN and ROYAL FAMILY, from all dan-
gers; and may YOUR MAJESTY long live in
the hearts of a brave, free and generous na-
tion, is the most sincere and ardent prayer of

YOUR MAJESTY's

MOST DUTIFUL SUBJECT,

AND DEVOTED SERVANT,

GEORGE BOLTON.



TO THE PUBLIC.

IT is a true, though a melancholy reflection, that in all ages and in all nations men have never exerted their genius more, than in contriving means for the destruction of one another: but the secondary reflection is equally true, and of a more pleasing nature, viz. That in the end, the greater the destructive properties, which either art or science gives to instruments of war, the less becomes the slaughter.—Thus improvements in the art of war, applied to military or naval tactics, operate first for the individual good of a country, and afterwards for the general benefit of mankind.

Here then, we see, that a real good to the cause of humanity arises out of an apparent evil. Consequently those persons (for such there are) who scruple not to censure pursuits of this kind, and represent them as things of a horrible nature, reason without solidity of argument, and form their conclusions regardless of experimental truths.

When contending nations, to the disgrace of human nature, deluge extensive plains with purple gore; compared with these, how happy, England, must thou feel, who never drawest the sword, but in thy just defence. Equally
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distinguished in the records of fame, for the bravery of thy sons, and for thy peaceful disposition.—O! my country! how I glory in thy name, when I see the outlines of thy great national character truly touched by every impartial historian, ever justly representing thee most faithful to thy engagements, slow to engage in war, but eager, from principle, to establish peace on honorable conditions.

At a time like this, any considerable improvement in the art of defence must be of the greatest importance; particularly, as the enemy of this happy country has brought an innumerable armed multitude into the field; whose avowed principles and intentions were the overthrow of every regular government and destruction of all crowned heads; and not trusting to the effects of their arms (though rendered more terrible by their new flying trains of heavy artillery,) employ the most detestable measures to ensure success, attempting, by their emissaries, to mislead the brave and generous people of this country; to alienate their deep-rooted affection for the best of sovereigns, by painting in perverted language a false picture of their situation; ridiculing every institution, whether human or divine; teaching them to believe, that instead of any misfortunes happening to a country from the will of Providence, that all ills proceed from kings and governors, and making it a crime to be in either situation.

Such conduct, and such language, it was but natural to expect after the declarations made by them; they were sensible of the true bravery of Britons, of their generous sentiments, and of their attachment to their sovereign. Therefore, trusting more to dissimulation than to arms, well knowing, that to conquer Britons while united, was impossible;

impossible; and that the only chance of temporary success, was to make the people think they were wronged and oppressed; they endeavoured by means like these to steal away that enthusiastic love for their king and country, which was ever the characteristic mark of their native valor; by such insidious measures creating intestine broils, and at once giving a mortal stab to tranquillity and happiness; with the further hopes of dividing our force, and deluding the minds of those, whose unsuspecting disposition makes them become an easy prey to French intrigue—Proceeding on the established maxim, that the heart must be corrupted, before a good people can be made bad subjects—Would to God! that this nation at large knew the intentions of France, a country, which (as every page of history records) was ever famed for disturbing the peace of others, and always aiming at universal monarchy, and universal rule.—Under whatever form of government or name they now think proper to be known, their conduct proves their intentions are the same. At the time they determined to have no king, and chose to be republicans; the language of the convention was, that they would never lay down their arms, till they had made all nations free, and destroyed all kings, to whom they gave without exception the epithet of tyrants and despots. Thus were all countries to be deprived of their sovereigns and their established form of government, without so much as being consulted whether such a measure was agreeable to their wishes. No! it was sufficient that the caprice of an usurping national convention of France had pronounced their omnipotent will, their irrevocable fiat: a non-compliance with this unparalleled stretch of arbitrary power was instantly to be punished with fire and sword. Thus were all nations to be made tributary to presumptive France, who in the full display of

arrogance, would soon have created herself Lawgiver of the world.

They still remain the same ambitious people, differing in nothing but the name as to government: they still preserve the same object steadily in view; and both by open violence and secret fraud, level their inveterate malice against this long-envied isle.—Are we, my countrymen, so much degenerated, that we can hear, without the greatest indignation, our common enemy tell us, they will destroy our king, they will change our laws, and find another Carthage on the banks of the Thames? Let this declaration strike on the honest hearts of the sons of Britain, and the thought of Gallic chains, the worst of horrors, will imperceptibly strengthen every nerve, and without a dissenting voice will they pronounce, *It cannot, it never shall be.*—The attempts of the Convention to attain their general object, have been marked with the most savage barbarity; and have made surrounding nations view with frozen horror that depravity of human nature verified, which before could only be believed to exist in a disordered imagination.

Left any one should accuse me of national prejudice, or of holding up to public view a picture falsely coloured, I will prevent the accusation, by only naming facts of the greatest notoriety. Let me for an instant request you to accompany me in taking a retrospective view of France, when a misguided people became regicides. Before this barbarous act took place, look at the conduct of those who wished it. Were not the minds of the people worked up to frantic madness; impressed with the idea, that from the King alone arose all their ills, and that his death would
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end all their calamities? Then why not stop here? Why was their savage and brutal violence directed against the innocent thousands confined in prison by the tyranny of the Convention? Shall the plea of misconception be advanced in extenuation of such enormities? The excuse itself shews how extremely necessary it is to guard against those, who would wish to work the human passions to such a pitch of frenzy, as to leave mankind no better excuse, than that those passions have assumed the seat of Reason.

Who can reflect on the massacres committed in Paris without horror? Thousands of mangled bodies lying in the streets, and the city become a river of blood! Who could conceive that man could become so vile, as to run through the streets triumphantly exhibiting to public view the mangled limbs of innocent victims---and many were female---founding that war-hoop of intestine commotion, *Liberty and equality!*

Let us examine these high-sounding terms, these expressions that have led men to be guilty of every atrocity, that has left an indelible stain on a nation---made appalled nature shrink at the recollection, and sigh out the wish, that the "Recording Angel" of Heaven may blot out the horrid crimes, and efface them from every virtuous mind, and from the rising generation.

We are all sensible, my countrymen, of the effect that the name of Liberty has upon us. But let us ask, is it not necessary to define the extent and meaning of the word? for what one man conceives to be Liberty, another thinks Licentiousness; and what one terms necessary Restraint, another calls rigid Austerity. Then shall we draw
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the conclusion, that Liberty cannot be defined, that its bounds cannot be fixed, and that it is only to rest on the imagination of men, who differ as much in disposition and conception, as in features. Who is the person that is bold enough to assert that restraint is unnecessary? Where can be the permanent constitution without its salutary aid? Though some restraint is absolutely requisite, as a barrier against depravity, and to ensure the due observance of religious and moral duties; are those restrictions, which are made for the good of the community at large, to be branded with the name of tyranny and despotism? In this country, where true liberty is defined, known and felt, where a reciprocal restraint and check is established for King, Lords and Commons, there can be but one opinion in the minds of rational and thinking men; but alas, unfortunate France! you had not these perfections (so peculiar to the British constitution, and which have excited the admiration of all nations) and in attempting to remove some defects, the genuine flame of liberty was damped in its infancy, and the awakened passions were misguided, and wrongly directed; a set of ill-designing men embraced the moment while nature was off her guard, and tremblingly alive with hope and anxiety the human passions were ready to receive any impression.—The first unfortunately was a wicked one; and the atrocities committed by a deluded people have left a stain that can never be effaced. Since, my countrymen, I stand pledged to recite facts, and state my sentiments in the forcible language of truth: permit me to proceed in examining into the meaning of the term equality, and the consequences that have arisen from it. Shall it be taken as the people of France conceived it, and as many spectators, of other nations, did also, who imagined it meant an equalization of every thing. Delusive idea! but the spreading this delusion was
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for the interest of its propagators. Thus were the people in an inferior situation of life led to believe that an equal division of property was to take place, and that no distinctions between men were to be known. This conception brought thousands to the standard of equality, and made an unthinking innumerable multitude imagine that the hour of human happiness was arrived.

Who could conceive that in an enlightened nation such an absurd system could for a moment have taken possession of men's minds, and that a government could be supposed to be permanent without having distinctions—for in all, by whatever name known, there must be some at the head, some must be rulers: and were not the national convention such? Have they not exercised a power more arbitrary and despotic than ever was assumed by any monarch? Then what became of the term equality, as the multitude conceived it? Why not then explain to the people its true meaning, its intent, and prevent the horrors that arose from misconception? No; it was the interest of a set of tyrants to encourage the delusive idea, which led the nation into enthusiastic madness, and while naked, wretched and famished, vociferating liberty and equality! in the same instant they were shewing themselves the most deceived, the most injured of people, and the greatest of slaves.

I have not the most distant thought or intent to affix accusations without adducing facts to support them. Reflect, my countrymen, on the tyrannical measures pursued by the convention to keep up their monstrous system: men were commanded on pain of death to give in an exact account of their property, which was claimed by the convention, and they themselves put in requisition instantly to march to recruit their armies, which were to secure the existence of their tyrannical rulers,
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and to carry fire and sword into all nations that dare presume to think, that France had no right to dictate laws to the universe. Men pursuing such despotic measures, of course, could not be supposed to exist long, and while attempting to fix themselves more strongly in their usurped power, another party aiming at the same situation, soon found means to work their ruin. Thus followed one despotic set after another, proscriptions were without number; and as it was but natural for those that had taken such steps to obtain power, to be jealous and suspicious, domiciliary visits were instituted to search for property as well as treason, and ever on the watch against any one that they imagined might be inimical to their cause, thousands of innocent victims have bled on the scaffold by the relentless guillotine.

Such was the state of wretched France; and each successive day brought an accumulation of misery upon the people, from the unparalleled inventive powers for barbarity of that monster in human shape, Robespierre, who, with conduct more infernal than any that history records, began his reign in blood; Such was his irresistible fury, his frequent proscriptions, his wanton delight in murder, that the nation, fearing a depopulation of their country, condemned this execrable wretch to that death to which he had sentenced so many thousands.

During this distress innumerable armies were still kept up; but that may easily be accounted for: at the commencement of the revolution, the minds of the people were inflamed to a degree of enthusiasm, or rather madness. Volunteers were ready by thousands to fly to the frontiers, to join the standard of liberty and equality: vying with each other who should first reach the mouths of their enemies cannon. The harangues of their leaders were well suited to keep alive this temper

temper of the mind; and they frequently led on their troops to inevitable slaughter, while the plains were covered with the dead bodies of their countrymen, level with the ramparts of their enemy, wantonly sacrificing the *lives* of those men, whose *liberty* they professed to be the object of their exertions.

While the minds of the people were in this state of phrenzy, an unparalleled tyranny was preparing for them; which being accomplished, it was no longer necessary to trust to the recruiting of the army by volunteers: frequent requisitions took place, and masses of people were sent to fight the cause of a set of cruel tyrants.—This step was admirably suited to their emergencies, for they became in possession of property, and most expeditiously got rid of the owners, whose alternative was, compliance with the requisition, or instant death by the guillotine. Permit me, my countrymen, to request you to reflect on the system of requisition: what is it but direct robbery, a mere specious name, suited to answer immediate purposes, and made more shocking from the numerous murders committed in consequence of it.

The combined horrors and miseries that have attended the people of France, far exceed the power of description.—The country almost desolated, and drained of its wealth; every attempt having been made by successive rulers, to establish a system that it was impossible to render permanent; and when requisition could no longer produce a sum adequate to the wants of the convention, a system still more destructive to the prosperity of the country was adopted; and paper money, Assignats, were issued in such numbers, that apprehensions soon took place, and people murmured at receiving paper instead of cash; but this difficulty was soon and easily removed, by an order from the convention, commanding the

farmers to receive them in payment for the produce of their lands, or the punishment of death by the guillotine. The consequent depreciation of the value of the assignats, which ensued, sufficiently appears, when one Louis d'or is now worth nearly five thousand livres in assignats.

The enormous expenditure to support their system and immense armies, has nearly brought the country to an inevitable bankruptcy: so sensible are the present rulers of France of the magnitude of the forced loan, that they are compelled to adopt the most arbitrary and oppressive measures to raise it: such that if attempted to be carried into execution in any other country would create the greatest alarm, and might be the means of producing the worst of consequences. The people are to be formed into classes, and each class must pay the quota affixed to it, either in cash, or plate; and not possessing these, payment must be made in grain; if equally destitute of that article, their effects must be sold to produce the sum demanded; and if a sufficiency cannot be thereby obtained, the assignats, which on pain of death they have been compelled by the decrees of the convention to take in exchange for their property, are only to be received at the depreciated rate of 100 below their nominal value: this sum is levied in encreasing proportion to the industry of the persons. These first deluded, and now oppressed people cannot entertain a thought which excites them to honest labour for subsistence; but it must be immediately succeeded by the mortifying reflection, that the greater are their exertions in behalf of themselves and families, the more rigorous are the terms imposed: if the quota be not furnished at the exact time, imprisonment is to follow: and if this punishment is not found sufficiently severe, no doubt can remain, but that the guillotine will again begin its work; for such is the great expenditure of France, that to support it, for
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any length of time, would ruin the whole continent of Europe. Their minister of Finance plainly informs them, that six hundred millions in specie must instantly be procured, and that without it, the army cannot be kept together; that desertion to an alarming degree has already taken place, from its being badly supplied; and that nothing but *cash* will answer their present exigences, for assignats are no longer negociable from their being so much depreciated in value. Now, my countrymen, reflect for a moment on the steps that have already been taken by successive rulers of France, and you must be convinced that the former and present ministers are totally ruining their country by the enormous expenditure, and as the people find their difficulties encrease, the system of terror will no doubt be renewed with all its horrors, to enforce obedience.

Amidst these difficulties, the instant any success of their arms is announced, that instant again appears French gasconade, and their former intentions are avowed: Then do we hear that the Rhine and Moselle are to be the boundary of France, contrary to their assertions that conquest and aggrandizement were not the object they had in view. Remember, my countrymen, a disunited people of the Netherlands and of Holland are fallen a prey to French duplicity, from having placed implicit confidence in their declarations; but instead of finding that France had fulfilled her promise—disinterestedly to fight for their liberty—she unites them to herself, claims them as her right, and tells them they are a conquered country; and to prevent any misconception, the frequent requisitions made upon them have most feelingly cleared up all their doubts.

Before the commencement of the war did not France employ numbers to subvert the minds of our countrymen; pursuing the most abominable measures to stir up the unwary against

the King and Government; and making every effort to render the situation of this country similar to their own; and at the same instant did not the language of the convention proclaim their intentions of destroying all monarchical government; and that they would compel us to part with what our ancestors had bled for, and what has been handed down to us from distant generations, and by all held sacred? Did not this internal enemy in some degree succeed? were not some few so infatuated, so deluded, as to form themselves into a convention here, and adopt all the ridiculous forms that existed in France, and send their delegates to that country to congratulate them on the steps that they had taken and were pursuing, expressing their hope that they would soon be greeted by a national convention in England?

Many have censured the dismissal of their minister, who had the audacity to shew his approbation of the attempt for subverting our constitution, in the same instant he was assuring our government that no interference of that nature was intended? Were we then, my countrymen, to permit the dæmon of discord to prey on our vitals, and not attempt to remove the danger that threatened us? would we not, in our own families, if we discovered a wicked and designing man, under the mask of friendship, attempting to seduce our wives or daughters, or to sow the seeds of discord, and divide a house against itself, would we not discard the monster? should we quietly let the serpent be cherished in our bosoms, and become criminal ourselves by neglect? The unsuspecting good hearts of Britons never were yet sufficiently guarded against that duplicity and want of principle, which constitute the national character of the French. Had they succeeded in their attempt to spread anarchy and confusion in this country, an innumerable horde from France would have rushed in upon
us,

us, to fraternize and plunder, and at once deprived us of all our ancient and invaluable rights. But Providence guarded this happy isle; and the shield was uplifted, and the sword drawn, before the poison had too far spread its baneful effect, and the enemies of the country are disappointed, in not being able to destroy another Carthage in the latitude and meridian of London.

Had French doctrine been attended to, and their advice followed, is it probable that they would have acted better for us than they have done for themselves, or for those countries they have conquered? The horrors committed in their own, and the despotism already felt by the others, are well known; and that knowledge will totally prevent any wish of participating with them. At present they appear a little more moderate, a little more like a government; but how short has been the reign of any of their Rulers? to-day they appear permanently fixt, and to-morrow are hurried to the scaffold. The present calm of France, and present stretch of arbitrary power now in force, I much suspect to be only the preface of a future storm; and that again the system of terror will be revived: at least such a circumstance appears too probable, from the forced loan at present levying on the people, the certainty of its not producing the immense sum required, and the disposition of the convention to adopt more rigorous modes of extortion, added to the disinclination expressed on their part for peace with the Germanic Empire, though endeavoured to be obtained by the mediation of a neutral power, Denmark.

The cause of such disinclination is obvious. Following the former wily politics of France; the convention expected
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to make a separate treaty with each circle, and thereby dismember and destroy the power of the Empire, while the convention would have been enabled to confer on the divided circles those blessings of fraternity and requisition with which they have ruined Holland.

If France is determined to continue the war, shortly another loan must be demanded, as that which the convention is now attempting to raise, will but for a very little time supply the enormous expenditure; and the return of the armies into the interior of the country, and who may express disapprobation of the conduct of their ministers, is much to be dreaded, as the minds of the people may perhaps be soon inflamed by the keenness of their distress, and in attempting to punish the authors of their miseries, they may once more be made the instruments of destruction to the innocent.

It is much to be hoped for the cause of humanity and peace of nations, that the system of moderatism which has for some little time been pursued, may be the means of recalling long-lost reason to France; and that her meditation on past horrors—her present unparelled distress—her ruined commerce and future melancholy aspect, may produce in her mind some degree of humility and good-will towards mankind.

Let me, my countrymen, intreat you to guard against French intrigue; it assumes many shapes; the riches of this country form a tempting object, and to obtain it they know the government must first be subverted. An Englishman by being prepared, and on his guard, will not become cruel, or take advantage of his neighbours. Unfortunately

nately a greater degree of depravity at this time exists in the human heart than many imagine. Much pains have been taken, by industriously circulating wicked publications, to throw contempt on religion and all its institutions, and remove from mankind every conscientious restraint, which might deter them from perpetrating in this country atrocities similar to those which have been the disgrace and ruin of France. From what are we, my countrymen, to expect security, if such doctrine should be attended to here? Does not a proper conduct, a just dealing, in doing to others as we wish them to do to us, arise from religion? do we not think it necessary for our happiness here and hereafter; and feel it a duty incumbent on us? Do we not fear offending the Supreme Being by a neglect of those duties, more than even the laws of our country? It is to the salutary effect of religion, that we must look for the happiness of the community, for peace, friendship, integrity, and many other virtues which make life desirable, as there are not, nor cannot be, laws against every vice.

This pamphlet will in all probability be read by many of my countrymen; and may God grant, that every one may feel, as I do, the truths that I have stated in thus expressing my sentiments; may they cherish that loyalty of heart which is so justly due to the virtues of his Majesty, and which is, and ever was, the constant attendant on every truly brave and generous Briton. May they recollect, that in addition to a savage, unrelenting enemy being at their gates, one more dangerous has stolen in upon the nation: and under the specious mask of disinterested friendship, is attempting with unceasing industry to sow the seeds of lasting misery, watching with diabolical eagerness, the arrival of that moment best suited for plunging this country into
inevitable

inevitable destruction. This direful mischief can only be effected by creating mistrust, jealousy, anarchy and confusion. The late abhorred, and atrocious attempt on his Majesty's life, will, I hope, be a sufficient warning to awaken my countrymen, and shew them sensibly the threatening danger; and that they will, with redoubled loyalty, rally round that standard, which must save them and the country from impending ruin, and preserve the constitution from the incroachments of a set of men, combined for the vilest purposes—Men determined to let no laws, human or divine, divert them from their iniquitous projects—Men who have taken never-ceasing pains to mislead others of unthinking minds; working up their passions to frantic madness, and then turning them into a channel suitable to the execution of their wicked designs; well knowing that a deluded multitude may in the instant commit an act, which in the hour of reflection, would have shocked the most depraved, the most hardened villain.

This ever abhorred and base deed, which but too plainly proves the increase of depravity and success of the hidden internal enemies of the country, has already been the means of sounding the alarm to the nation, and has struck most forcibly on the hearts of Britons. It is now arousing that honest indignation that ever attended them. The enemies of this country thought the proper moment arrived, they embraced it, and endeavoured to strike the blow; but the hand of Providence interposed, and has raised up an impenetrable shield for his Majesty; one, that must make the enemies of this country feel all the pangs of disappointed wickedness; as they now see that his Majesty is defended by living in the hearts of a brave people. In all times of prosperity and national calamity his Majesty's
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person has ever been looked upon as sacred: all were ready to defend it with their lives and fortunes.

Nothing can more forcibly shew, that the principle of first corrupting the heart has been strictly attended to, than that her Majesty, who was ever admired by all ranks and parties, and the whole nation without exception, as the best of Mothers, the best of Queens, and as a true pattern of the greatest excellence and virtue, should not, though admitted to be this good and amiable character, escape the malignant venom of a desperate deluded few.

This could never have happened, had not the heart been first corrupted, as the most wicked cannot help venerating virtue: but the enemies of peace and concord, whose object is anarchy and confusion, teach contempt of religion and all religious institutions, which are the only certain barriers against depravity.

Such is the true picture which I have taken the liberty to place before my fellow countrymen: and I cannot enough express my unbounded happiness in knowing that the sentiments of the people at large differ not from those I have here delivered; and that they are ready to support with their lives and property our King and glorious Constitution. Shortly, I hope, that cloud of prejudice, which at present obscures the understanding, will be totally dispersed, that the misguided and disaffected part of the people may see the object of their country's enemies displayed in its proper light, and be truly sensible that his Majesty's happiness and their own is inseparable, and that they will unanimously encircle and defend the throne with one heart and voice, in full conviction, that this country when united is unconquerable; but when divided must soon be brought to desolation.

G. BOLTON.



R E M A R K S
ON THE
PRESENT DEFECTIVE STATE
OF
FIRE-ARMS.

AN Improvement in the construction of Gun Locks, that would remove the danger attendant on carrying Fire-arms, has long been a desirable object, not only to military men, but to mankind in general. Numberless have been the plans for attempting to give security to them; but all have failed of becoming of general use; as it was necessary (in almost all of them) to remember that a bolt should be removed before the piece could be discharged: it could not therefore be adopted in the army: and many persons have found themselves very dangerously situated from having forgot to remove the bolt in their locks before they attempted to fire: many others will not carry pistols unless they

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have stop locks; it is true, they are much more secure for travelling, but every one has not the coolness, when suddenly attacked, to remember the previous operation of disengaging the bolt, the neglect of which must be attended with imminent danger.---Since this circumstance is so well known, it is not necessary to say any thing further relative to the stop locks, now in use. A lock possessing the property of *bolting and unbolting itself*, without requiring any recollection to perform either operation, and at the same time answering every other purpose of the locks now in use, will be, I have no doubt, readily admitted, by every person, to be a very important and desirable object. All military men who have seen service must have observed that numberless accidents happen to the soldiers; and that from the badness of their locks the musquetry is by no means so destructive as it is natural to imagine it would be: the reason of which is well known to those trained to the service, though difficult to be accounted for by persons who have not had the opportunity of being eye-witnesses of it. But it is not necessary that a man should be bred a soldier, to understand the cause
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of these failures: any person knowing at all the construction of a gun lock will easily comprehend the reason when pointed out to him. For many years I have paid particular attention to the construction of fire-arms, and have tried a great number of experiments, and have been at considerable expence in attempting to give efficacy, safety and durability to them. After having shewn the defects in the lock now in use, I shall explain the particular advantages attending the one I have invented. In the first place, the only security that there is in the internal part of locks now used depends on the catches or notches (by Gun-makers called the *bents*) for the full and half cock, which is easily perceived by any one looking at a lock now in use, unless it is one that has the bolt put to it, and then there is the necessity of remembering to remove it before the piece can be fired. The objections to this mode of security I have already mentioned, which I imagine will be readily admitted of; besides, this security is only put to very expensive locks, and therefore could not become of general use, much less in the army, where œconomy is an object.

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Having received at an early period a military education, I have been constantly attempting the improvement of fire arms; and well knowing the great danger the soldiery are exposed to, merely from the unsafe construction of the very weapon they carry for their defence, since many lose their lives, and a great number frequently get severely wounded, I was from motives of humanity determined, if study and money could accomplish it, to effect, what always appeared to me one of the things most desired in an army, the giving complete protection to the foldier, and at the same time, to render the musquet infinitely more destructive to the enemy than it yet has been.

I am sure every humane mind will regret that those brave men, who fight their country's battles, should, in addition to the danger of being exposed to the enemy, run such great hazard of losing their lives, or of being badly maimed, from the very defective arms with which they are furnished. This observation extends not only to their being indifferently manufactured, but also to their originally bad construction: the same will hold good in the best fire-arms; only the probability of failure

failure is greater in the soldier's musquet, as Government cannot agree to give a price equivalent to that paid for a gentleman's fowling piece. And though so much money is paid for a sportsman's gun, still there is seldom a week passes, but we hear of some accident from one going off without the person who carried it being able to account for the cause. So far distant is the idea of safety annexed to fire-arms; that many gentlemen are deprived of half the pleasures of a country life from the fear of carrying a gun, and that such fear is but too well grounded, I believe, all will admit: for in any company let but the conversation turn upon fire-arms, most of them can relate some accident, which has occurred to their own knowledge, or how narrowly some of their acquaintance have escaped. A country gentleman feels his pleasure diminished in reflecting when he goes a shooting that he leaves at home some anxious for his safety, fearing, and but too justly, some misfortune may befall him from the instrument he carries to afford him diversion. Shooting parties are attended with danger, and by many avoided from the uncertainty attendant on guns. Others who do
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not like to forego the pleasures of shooting, deprive themselves of society in their excursions, from the apprehension of danger when many carry guns together. That accidents the most dangerous frequently happen, and are attendant on the use of fire-arms, and that many a valuable life has been lost to the community, will, I have no doubt, be readily granted; which being allowed, I appeal to the public at large for their sentiment of the utility, and importance of a gun-lock that shall answer every purpose of the present one, and at the same time prevent the possibility of any accident incident to those now used. The lock I have invented possessing these perfections, I am sensible that there will be but one opinion respecting its superiority, and I feel completely rewarded for the trouble I have taken in accomplishing this desirable object, from knowing that the invention will save the lives and limbs of many people, and at the same time render the musquet more destructive to the enemy, independent of the more secondary, though not less important consideration, that fire-arms may be carried with infinitely more satisfaction, either for protection in travelling or for the pleasure of
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the field. And though this security is given to the lock, yet it is much more simple in its construction, much more certain in its effect, and does not require any thing near the attention that those do now in use. As I have before mentioned, the only security in a common lock depends on the notches for the full and half cock; from whence I shall shew the reason why all fire-arms are so likely to go off unexpectedly, and particularly the foldier's musquet. For, from length of wear, these notches become extremely shallow, and that sharp angular edge, which, when new, seemed to hold so firmly, being worn, and becoming much rounded, if the cock is touched so as to lift the sear suddenly beyond the notch, the main spring draws it down so quickly, that the sear misses falling again into the notch, the piece immediately fires, and from this circumstance alone any person will easily see the danger of fowling in the woods, where so much care is necessary lest any twig should touch the cock; how frequently have accidents happened from getting over stiles, or from falling down with a gun in the hand, even although on the half cock. Misfortunes of this nature are liable to happen

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when the lock is new, and much more so when it is a little worn.

I shall now point out some of the accidents that happen in the *Army*. As a soldier's musquet lock, in general, is not made of such good metal, nor so well manufactured as the fowling piece, it is therefore more likely to go off accidentally; and when we compare the service that the two pieces are required to perform, the chance of danger from the soldier's appears evidently increased. In pointing out these defects I am principally addressing myself to Gentlemen of the Army, as unless people have paid attention to military evolutions, they cannot be such competent judges of the mischiefs continually occurring. In the first place, I am confident it will be admitted by military men, that many of the springs are frequently so soft, and badly tempered, that the hammer flies up, without receiving a sufficient blow to produce fire; and in addition to this evil, the spring is fastened to the lock by a screw, which, from the soldier having frequent occasion to take it off, becomes worn, and it is no uncommon circumstance when firing, for the hammer and spring to fall entirely off. From the defect
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of the feather spring, and frequently, at the same time, the main spring being so badly tempered, and the cock quite loose, the blow becomes so extremely faint on the hammer, that a lock in this state may be snapped twenty times, without producing any fire. This fact has been so often verified, to the great mortification of an officer as well as of the private, that I shall not say any thing further on the subject, but proceed to shew the next failure.

When the notch or catch becomes a little worn, which is soon the case from the softness of the metal, the piece is extremely dangerous to carry, as I have before pointed out, because there is nothing to prevent its going off, but its stopping in this notch; consequently every day's wear renders it more unsafe, so much, that when the piece is brought smartly to the shoulder, the jar on the butt will frequently shake it out of this notch, and it immediately fires; this is the most fortunate situation that the piece can be in, as no accident is likely to happen while in this position. But I will now shew the dreadful consequences which must ensue when the piece is in a different situation. At the time

of loading, the men are obliged to let the piece slide gently through the hand, for the butt to touch the ground, which requires care, and retards the motion. The piece in this position has the cartridge put in and immediately rammed down, which operation is too frequently found sufficient to shake the cock out of the notch, and if the man does not get killed, he is almost sure of losing his hand or fingers, and being rendered unfit for duty. In the next place, when going thro' the different evolutions with the piece loaded, it will frequently slip through the hand, and the butt receiving the jar on the ground, the muzzle of the piece in all probability, falls either against his breast, or against the next man; for in attempting to save it, it is generally prevented falling forwards, and therefore becomes in the position I have described: if it goes off (which it too frequently does from this jar) it is almost a certainty that the man who let it slip, or the one standing next him, will get shot through the head.

Officers will, I am confident, admit, that these accidents are but too common, and if not so bad as to prove fatal, the foldiers are
often

often rendered useless. The narrow escapes they frequently have are evident from their hats having balls through them, which, from their position, could only come from their own or the next man's musquet.

Soldiers often place their musquets in a careless manner, and frequently hang their belts upon them, by which, if they touch the cock, and are taken from it suddenly, the belt lifts it from the half towards the full cock, but instead of returning into the half cock, the rapid movement of the main spring is too great for the fear spring, and the piece immediately fires. The soldier's musquet in this state is similar to the fowling piece cock being touched by a twig; but it is not from this circumstance alone that mischief is to be apprehended. Many pieces amongst a large army are frequently going off, without any person being able to assign a reason. However, it matters not the way in which the cock gets touched by any thing, provided it is lifted out of the half cock suddenly, which must always be the case when it is done without its being known; for if lifted out by the hand, and let down very softly, it will return into the half cock: but, as I have before observed,

served, if done suddenly, and immediately let go, the main spring from being so much more powerful than the fear, overcomes it, and the flint must go down on the hammer.

When men have to go through narrow passes, over boggy grounds, and uneven roads, they cannot avoid pushing against each other, and their cloaths may suddenly touch the cock. But without shewing further, that a discharge will take place, if the cock gets removed out of the half towards the full cock, which is only shewing sufficient cause for its firing, I have already proved that pieces frequently go off without the cock being touched at all---the jar on the piece when brought to the shoulder, the ramming down the cartridge, or any violent shake, is enough. And the cause of these failures arises from the originally bad construction of the lock, having nothing more than a little notch to trust to for preventing its going off, which if worn must consequently remove the security, and render the piece, if not totally unserviceable, liable to these failures.

Another great misfortune attending these musquets is, that in secret expeditions, undertaken in the night, some have gone off, by
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which means the expedition has been rendered fruitless, either by throwing the men into confusion, or giving timely notice to the enemy to prevent their approach. And when these attacks in the night are to be made by different parties, a piece accidentally firing has a very bad effect, each party thinking the other attacked; in this alternative, not knowing whether to advance or retreat, British courage generally points out the former, and many a brave man may fall, in attempting to storm a fort, or force a pass, by a small party, whereas if the whole body had advanced, it might perhaps have been effected with great ease and very little loss.

The inconvenience attending a bolt which requires to be removed every time before firing, is too well known by military men to be used in the army, as the men would generally forget to remove it; besides, the probability of its frequently being out of order, and the very considerable expence that must attend on a general adoption.

Every impartial military man, will, I am confidently persuaded, confess that the misfortunes and defects which I have named are constant attendants on the army. Very great
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care and attention is required when the piece is at the full cock, the men are obliged to be particularly cautious, and the piece is seldom permitted to remain a moment longer in that state, than is absolutely necessary, and indeed too much caution cannot be shewn, when it is considered how easily the piece goes off; for a very slight blow on the cock will do it to a certainty. Another objection to the present lock is, that the cock can be drawn considerably beyond the full cock, which is done from the apprehension that if it was prevented going further than the stop, the men would not draw it far enough to ensure its taking hold in the notch; and as I have already proved, were they to quit their hold of the cock, before they were sure of its being fast, the piece would go off (provided the defects of the springs and the flint did not prevent it). One bad consequence attendant on the cock being drawn too far back is, that it tends much to break the main spring, by winding it up higher than necessary, or if badly tempered to make it set. I will now proceed to shew how extremely ill the springs in the present locks are placed, observing first, what every one will readily allow,

low, that the more a spring is bent, the more likely it is to break, as it is an unnatural state for the metal to be put in, therefore the more open a spring is kept, the more certain will be its durability, as it will be much less liable to break. This circumstance does not seem to be known by gun-makers, or they have not thought it worth their attention, for it is generally the case in locks that the top and bottom of the main spring when wound up nearly touch each other, by which means, the flaws in the bent part of the spring cannot be discovered from the nearness.

Since many of my readers may not be acquainted with the improper method that is frequently used in making the main springs, I shall inform them of the mode pursued, from which they will be enabled in future to judge much better of the goodness of this spring, which is of essential consequence to the lock: it is a very common circumstance for the workmen, when manufacturing, to give it a nick with a sharp edged file, to shew where the spring is to be bent, after which operation, a blow from the hammer immediately hides this nick; but the workmen do not

know what mischief they have done, for it is from this circumstance that the main spring frequently breaks, it is a self-evident circumstance, that a nick cut into any large piece of metal will be the means of its being more easily broken by bending, or by giving it a blow, as the metal must of course give way in that place where the nick was made, for it separates the grain of the metal, which is composed of an innumerable number of small particles, firmly united by the powerful effect of cohesion, and laying the whole length of the piece of metal in longitudinal lines, like the grain of wood, as seen in a deal board; therefore, as deep as the nick is made, so much of the strength of the spring is taken away, for the grain of the metal to that depth is destroyed. It has the same effect as the turning a hazel stick into the form of a hoop, and a knife being drawn across the outside, a number of the small fibres of the wood fly up in lines, which must of course weaken the hoop in this part, and if a force is applied, it is sure of breaking in that place where the cut was made: to make this still clearer, the effect produced by the nick in the metal is similar to that of a cut being given to a rope, which
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is only composed of a number of threads twisted together, therefore if a cut is given to any of the threads, the rope of course becomes so much weaker by the number of filaments destroyed; exactly the same effect is produced on the metal, only the particles of which it is composed are so minutely small, that they cannot be discovered by the naked eye. If the main spring be very highly tempered, and the top and bottom part of it are placed so as nearly to touch each other, the probability of its breaking is very great when wound up to the full cock, for from the extremely sudden bend that it has in that station, there is great danger of destroying the uniform arrangement of the particles of the metal, and this cause, in addition to a nick having been already cut in the spring, or its having been finished in the turn by a flat square-edged file, produces the same effect.

To shew still further how little attention has been paid to this circumstance (or what amounts to the same thing, the want of knowledge of this effect) a very little time ago many springs were manufactured with a hole drilled directly through the thickest part of

the main spring, where it is bent, it being intended to have placed them upon a center, but every one that was tried broke. Had the manufacturers been acquainted with the nature of the metal they were working upon, or of the effect that a nick, or hole, made in it would have, they certainly never would have attempted to make them in this manner.

The fear spring is a very delicate piece of metal, and is frequently out of order, and from the absolute necessity of making it weak creates the probability of the lock going off as I have before mentioned; for instance, when the cock from an accidental blow is driven beyond the half towards the full cock, though the fear spring presses down the fear into the state for taking hold of the notch for the half cock, yet its action is so weak, and slow, comparatively with that of the main spring, that it seldom happens that the cock will catch into the half cock when suddenly descending from any part between the half and full cock. The men are obliged to be careful and slow in the operation of coming from the full to the half cock, and it is generally performed with apprehension of the fear not having taken hold; and if attention is paid

paid to this movement, it will be observed that there is a degree of hesitation and mistrust upon the hand being taken from the cock. Another defect, not only in the musquet locks, but also in those the highest finished, provided they are a little worn, is evident when at the full cock, for merely pushing against the cock will send it off; as a proof of this assertion, I only request any of my readers to take one of the best locks into their hands, placing the thumb behind the hammer, and the fingers round the cock, and attempt to shut their hand, they will find that without any exertion of strength, they may fire their lock for a thousand times together: it is therefore clearly shewn how dangerous any piece must be if carried at the full cock, and in particular if the lock should be a little worn.---Since it will go off so easily by pulling the cock, how much easier will it if the cock receives a blow; for every one is acquainted that much greater is the effect produced by a small body striking against another suddenly, than that produced by a heavier one that is placed upon it gently.

Having now, I flatter myself, proved beyond a doubt the imperfections in the present

sent construction of locks; and the certainty of accidents arising from them being so strongly attested by fatal experience; I shall proceed to point out the inefficacy as well as misfortune attendant on them in the army. I have already shewn the calamities that soldiers are daily subject to, but I have not yet pointed out how very inadequate musquets are to the service required of them.-----I have to apologize to military men for this remark; as, no doubt, the following observations are anticipated by them; but as the greater part of mankind are not sufficiently acquainted with the particular circumstances attendant on military movements, to discover the bad effect that must arise from our defective fire-arms when brought into real action, I trust, that I shall be pardoned this trespass on their time, as it is necessary that all should be competent to judge of what they are to pass sentence upon.---I shall begin with reviews, as they are generally attended by many others, as well as military men. I wish to recall to their recollection the observations that they must have made upon the firing, which will be sufficient to convince them of the validity of my statements.

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My first assertion is, that though the soldiers shall come into the field with their pieces in the best possible order that they will admit of (which is likely to be the case at reviews) after the first fifteen or twenty rounds, or perhaps less, it will generally be found, that one in four cannot go on with firing, either from bad locks, or bad flints. This observation will hold good from twenty to any number of men. Continue the firing a length of time, and the number that will be found defective will exceed the belief of those not accustomed to pay attention to military affairs. The men are obliged to fall into the rear, either to change their flints, or get them hacked, and nothing has a more awkward appearance than a great number of men formed in the rear, with a serjeant going down the rank hacking their flints; and, in all probability, some out of the number cannot again return, from a feather spring having come off, or that the lock will not produce fire, although there has been a change of flint, or that it has been hacked; the intent of this hacking is to obtain corners or sharp points to the flints, which is proving, that a flint having angular
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points is more likely to give fire than one with a regular and uniformly straight edge, and this is certainly the case; for whoever takes a flint and steel to strike fire with, will always look for the sharpest corner. We will now suppose the men (or part of them) returned to the rank; they are far from feeling any degree of certainty that their pieces in the next attempt will go off. How common is the circumstance to see them pull the trigger half a dozen times, and they cannot get fire; at the same time you hear the officers ordering them to pull sharp. This want of fire arises principally from the cause already named, the weakness of the main spring, feather spring, &c. I do not mean to assert, that a violent blow is absolutely necessary; the effect depends on placing the cock and hammer so that the stroke may be a drawing one; for a flint struck forcibly against a steel, without drawing the hand down, will produce little, if any, fire. I have communicated to a very great number of officers (and many of them are the highest military characters in the kingdom) my observations on the number of men rendered useless after firing a length of time, and I have

have had the satisfaction to find (though it was a mortification in another respect) that their observations confirmed my own; and by many it was admitted, that if the firing lasted any great length of time, a much greater number of men than I have mentioned would become useless.

Since such failures attend on reviews, let us examine what is likely to be the case in real actions, when so much attention cannot be paid to the musquets, or to the necessary exactitude of the different movements of the piece; and observe how probable it is, that the numerous defects already proved to exist, will tend to introduce that very irregularity and confusion, the prevention of which is the principal effect intended to be produced from men all being taught one regular set of movements, which from length of practice becomes habitual, and gives so decided an advantage over an undisciplined army; therefore, these movements, which to many appear unnecessary, and merely military parade, are indispensable, and require the utmost precision and perfection to ensure an uniform and regular effect; but since so much coolness

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cannot be expected in action (particularly at the commencement) many more failures are therefore likely to ensue than during a review. I am now led to take notice of that particular situation of the soldier which ever impressed me with the most painful anxiety, and the concern I felt, made me determine not to spare any expence or application in attempting to remove it.

Having had many advantages at an early time of life, such as a regular education in military tactics, and a course of mathematics, I intended going into the army, had not their MAJESTIES appointed me to the high honor of instructing the Royal Family in several different branches of learning; this circumstance made me give up the idea of entering into the army, but did not not take me off my favourite pursuit, that of improving fire-arms. Happily, being possessed of an independent fortune, I have been enabled to try the effect of any new plan that occurred to me, and being fully convinced that I should not be able to get any scheme carried into execution by gun-makers, I attempted my improvements in quite a different

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ent channel, and am indebted to mathematical instrument makers for very exact models and accurate workmanship; from men of this profession, I found it easy to get patterns made agreeably to my direction, as from not having paid particular attention to fire-arms, I found them free from prejudice, and ready to give up their opinion to mine, and implicitly obey my directions. From these circumstances I flatter myself I am enabled to produce a lock, that will do away all the enumerated defects of those now used, and which is yet more simple in its construction. I hope I shall be pardoned this digression on the patience of my readers, which being granted, I shall immediately return to the subject of the soldier's unpleasant situation already alluded to, I mean that situation which has made every humane and reflecting officer feel for the truly hard and melancholy fate of his men.

In actual service, when once the line is formed no one, on any account, can quit his rank, since the formation of that is such an essentially important circumstance towards insuring the success of the day, that on no consideration whatever can any of the soldiers

be permitted to fall into the rear, as it would be the means of creating confusion. Therefore if any thing fails, either from the badness of the lock or flint, they must remain in their rank, and of course run the same risque of being shot as those who are able to continue their fire: let any one but recollect what he has observed at a review, and he will immediately see that an action cannot have long commenced before many a brave man must stand inactive, deprived of the possibility of annoying the enemy, yet conscious of his equal chance of falling with him who can keep up his fire: Judge what must be the situation of a man who has his country's good at heart, one who is willing to die in its defence, but at the same time wishes to sell his life as dearly as possible to the enemy; how truly is that man to be pitied, who perhaps, after the first ten or dozen rounds, finds that he must remain an useless spectator of the event of the action, and should that be of considerable length, what a great number of men may be in the same situation. This surely is a melancholy reflection to a feeling mind. Supposing the action to be of considerable duration, what with those killed, wounded, and

and those that cannot fire, the force is much diminished; if the number is not sufficient to charge with the bayonet, this constant falling off from the pieces not firing, &c. must ultimately compel a retreat, which frequently proves more destructive than the action itself. Many times have our gallant countrymen been attacked by a very superior army, yet their bravery has supported them until overpowered by numbers; and it is not unreasonable to infer, if their pieces had not failed, that although not able entirely to defeat the enemy, they might have compelled them to retreat, provided that the same heavy and steady fire used at the commencement, could have been continued to the close of the action.

How frequently is it the lot of a small party to have to defend some important pass, or to cover the retreat of the main body; since they can depend on nothing but the fire from their muskets, it is absolutely and essentially necessary, that they should be such as can be relied on. And when a small party are posted to defend a pass, admitting that the men are so completely covered, from being strongly intrenched, or from the natural
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advantages of the ground, that the enemy, though infinitely superior in numbers, cannot destroy any of them, and that by their fire at first they are able to keep them at a distance, yet, I assert, if the enemy are sufficient in force to continue the attack any great length of time, they will in the end carry the post, though I have admitted that not a man shall have been killed from the enemy's fire, yet if the action is long, so many pieces will become defective, that they must abandon their post; whereas, had the same fire been kept up, perhaps the enemy would never have been able to have accomplished their object. How frequently is a party sent to a post with orders to defend it to the last extremity, and at the same time the enemy have been ordered to carry it cost what it will; when this is the case, what an advantage would it be to find that a musquet shall at the end of the day, be as certain of firing as at the beginning, that when intending to fire, to a certainty the piece will discharge. Judge from this circumstance how great an such an advantage must be to a small party, since, from the above statement, all whose pieces would not fire, are to the remainder,

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as useless as dead men. This proves beyond contradiction, that if a musquet shall be so made as to fire for a whole day together, almost with a certainty of not once missing; a less number of men agreeably to the proportion (or greater) already mentioned, will answer the same purpose: for instance, suppose 4000 men engage a few hours, the loss in that number from defective fire-arms alone, I imagine to be one fourth, as I have no doubt it will be generally admitted that full this number are defective. It is for the consideration of military men to decide on the importance of a lock possessing the property of giving certainty to a musquet. If this is admitted, then it must also be allowed that a much less number of men will answer every purpose that a greater number has yet done, in the proportion already named, because of those who become useless from the defective fire-arms now used. This surely must be a weighty consideration to this country, which at best can so badly spare men to fight her battles, and in particular at this time, when we consider the importance of the present contest. Besides, I appeal to military men, whether they have not observed the singularly

gularly great attachment the soldier has to his musquet when he finds it fires well; it is a natural circumstance, and must surely make him take the field with greater confidence, knowing that the weapon he carries will give security to himself, and at the same time destruction to his enemy.

An officer must undoubtedly feel much satisfaction, when he reflects that, instead of his men standing for hours to be fired at, without being able to return a shot, every musquet may be relied on, and that his men will not fall, without having had the chance of destroying some of the enemy; he will also have a right to judge, more determinately, of the event of the action, as he will be sensible, from the superior efficacy of his musquets, that his men will fight with more confidence, and he will have it in his power, from being able justly to rely on his pieces, more than he ever could before, to attempt many expeditions that hitherto must have been looked upon as impracticable. I cannot let pass without observing the secrecy that will naturally attend on enterprises in the night, from having musquets with locks on my new construction; as I engage to prove, that

that it is next to an impossibility for any one to go off accidentally: this is certainly a circumstance of great consequence, as every officer knows how frequently it happens that pieces go off in these expeditions in the night, and they generally produce the worst of effects, viz. Confusion, which is destructive of every well-formed plan.

There will be an advantage attendant on the use of this new lock, which, I have no doubt, will be readily admitted; that is, as the fate of the day is frequently determined in an hour, or less time, the same heavy fire is kept up during the whole of the action. How frequently is it the case that for half an hour, or more, no impression can be made, the reason of which arises from the heavy and regular discharge of the musquetry, but after a certain time, how common is the observation that the enemies fire slackens; this I am confident is not altogether to be attributed to the number of the killed and wounded, but a very large proportion is to be looked upon as rendered useless, from defective musquets.

I will not trespass much longer on the patience of my readers, but only point out a few more of the advantages likely to ensue

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from the use of better fire-arms. They must be a valuable acquisition to the light companies, whose lot it generally is to have a great deal of firing. When from the situation of the country, and the enemy being known to be in force, there is a necessity of detaching strong picquet guards, at a considerable distance from the main body; of what great utility must it be, if from the goodness of their arms they are able to retard the approach of the enemy, and give sufficient time for the main body to begin their march in good order; and, by being so well protected from this advanced guard, much baggage may, in all probability, be taken away, that must have been abandoned to the enemy but for this support.

During a retreat the use of better arms must be of essential consequence, as the troops allotted to cover a retreat, are generally obliged to fire a great many times, which to the present musquets now in use, ensures the certainty of many failures. It would be attended with great difficulty to dislodge a number of men that had taken post in a wood, if they had the musquets which I shall presently describe; they would also be of great service
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in clearing the country for the advance of the main body; to cover a retreat, or harrafs the enemy while retreating, to defend a pass where the artillery could not be brought to bear upon them. Since I have engaged to prove that any failure shall scarcely ever arise on the part of the musquet with my improved lock; it is clear that a less number of men will be able to attempt an enterprize than ever yet has done; for, supposing 400 men engage in a long action, nearly one hundred, besides the killed and wounded, would not be able to fire; and, should the enemy be too strong to be attacked with the bayonet, these men cannot be of the least use, and have been serviceable only at the commencement of the action: how great a deduction may be made from knowing what may be done with better arms, I shall leave to superior judgment than mine; but after an action has continued any length of time with the musquets now in use, I am sensible the proportionate number I have named, who stand to be shot at, without being able to give a return, is much within compass. Perhaps it may be observed, that no great deduction could be made in the beginning of the action,

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tion, for if there were, they might not be able to withstand the first shock. In answer to this it may be asked, how many pieces are frequently defective before the two armies come to that distance at which it is proper to engage? for many musquets cannot be fired ten times without something being amiss with them; but with mine, the fire I have no doubt will continue equally heavy, allowance being made for the killed and wounded; since I have reason to suppose there will not be any defective locks at the end of the day. Therefore it is clear (if this assertion be proved) that an advantage is gained of all the number which now are useless after any length of firing, and that the men will not be exposed, without having the chance of killing some of the enemy. Another essential consequence will arise from my lock, the fire will be more regularly heavy than that from the bad musquets, now used, which is much scattered; and since we cannot say that the defect happens only to every fourth or fifth man, it may be, that five or six together cannot fire; the loss attendant on this kind of firing, or the advantages that will arise from the other, I shall leave to the opinion of military

litary men, who have paid attention to the failures I have mentioned.

I cannot conclude without observing how extremely useful an improved musquet-lock would be in the naval service, for generally a ship's musquet is much worse than those in the army, and such as could be relied upon would be of great service, since the men are frequently obliged to wait the roll of the ship, and unless they embrace the moment of her heeling, their fire will be useless. If they could be depended upon they would be infinitely more serviceable in close action, when it is necessary to man the tops, &c.

Having now enumerated the principal defects and cause of failure in the locks now used, I must observe, that there has ever yet been either an insurmountable difficulty to overcome, or that the thought of a remedy has not yet presented itself to any one, in relation to the *Flint*: for supposing all the imperfections of the present locks done away, and that in their stead great improvements shall be substituted, with regard to springs, &c. so that the lock may be depended upon performing infinitely better than it has yet ever done, still great uncertainty will remain,
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with regard to firing, on account of the flint; for if that will not give fire, the goodness of the lock will not avail: and how frequently failures arise from this cause only, I need but appeal to all who have ever used any kind of fire-arms. It is of little signification, whether they are the most common locks or the best ever manufactured; this defect always attends them, with this difference, that with such defective locks, as I have already pointed out the soldiers to be, the failures will be more frequent from bad springs, &c. There not being any remedy for this, is nearly as lamentable a circumstance, as that of the bad construction of the musquet-lock itself: for if by chance, a soldier finds his lock to answer tolerably well, and should meet with a bad flint, there is no remedy but changing it; but as I have already observed, during an action he cannot quit his rank, and the difficulty of changing while he remains in his station is so obvious, that it is perfectly unnecessary for me to describe it.

From flints being of a bad quality, or their edges becoming thick, they will not produce fire: how frequently has this circumstance happened to gentlemen, when fowling or travelling:

velling :---upon attempting to discharge their piece, they observe there is no fire: in this case there is no alternative, they must either change or hack their flint; but as these are operations that require time, the sportsman loses the chance of killing his bird; and the traveller, instead of shooting the person that attacked him, stands a chance of losing his life from having attempted to defend himself. That flints are ever liable to these failures, I am confident will be generally admitted; I will not therefore take up the time of my reader by dwelling longer on this subject, and shall only observe that this more forcibly confirms my assertion relative to the number of defective men during an action.

It is proved beyond contradiction, that with locks so constructed and so manufactured as those now used in the army, and having no remedy for the flint but changing it, these failures will most certainly be the constant attendants. From what I have been able to learn, it has been thought an impossibility to remedy the defect of the flint. I found from experience, that although the lock might be essentially improved, so as to give certainty and perfect security to it, yet this
remedy

remedy for the flint was wanting, and without it the business was but half done, at least with regard to the army. How far I have succeeded in my endeavours to obtain what appeared to me of the greatest utility to the army, and to mankind in general, who either from pleasure or necessity, carry fire-arms, I shall submit to the public opinion. I hope I shall not be accused of vanity, when I say, that almost all the highest military characters in the kingdom have seen my lock, as well as a great many private gentlemen, and every one of them admitted of its great safety and utility beyond my assertions, and all wished its general and immediate adoption. Should it become of general use, I shall feel amply repaid in the reflection that I shall have rescued, by this improvement in fire-arms, the soldier from that situation at which humanity shudders, and that many a valuable life will be saved to the community, and also that fire-arms may be carried with perfect safety, as I will immediately shew.

In the first place, the whole work of my improved lock is between two plates, and all the centers are doubly supported. The main spring, contrary to the present mode of making
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ing it, is extremely open, and has strong double centers going through the two plates, which much encreases its strength, and prevents its being dragged from the inner plate; the upper part of this spring answers for the hammer instead of the feather spring. In the foot of the hammer is a roller, which works on the top of the main spring and takes off friction; the back part of the hammer is finished with a curve and rounded so as to work through a hole, which lets it play on the top of the main spring, and at the same time keeps out the weather. The bottom of the cock is a solid piece of metal made circularly, and in the back part of it are cut the notches (or bents) for the full and half-cock. The cock, when discharged, strikes on the solid piece of metal projecting inwards, at right angles, from the outside plate; in this solid piece the pan is made, the inner plate shuts close to this, and the whole is boxed up, and can never move from its work; for when stocked, the inner plate comes against the barrel. On the top, and right hand part of the cock, a considerable part of its thickness is cut away; into the bed thus formed falls a very strong flat bolt of

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nearly

nearly double the thickness of the strongest part of the main spring. This bolt drops on a center, fitted at a considerable distance beyond the back of the cock, in the outside plate; immediately underneath this bed, in which the bolt lies, are cut the notches for the full and half cock, in the solid part of the cock itself. Below the bolt center, and nearer to the back of the cock, is the fear, which is made in a circular form, and also drops on a center, there not being a single screw throughout the whole lock. In the front part of the cock is the swivel for lifting up the main spring.

I have totally put away that delicate fear spring, which, on account of its imperfect action, I have so much complained of; and all the necessary operations for acting upon the bolt and fear are performed in the same instant by a single spring; the breadth of this spring is determined by that of the main spring, which also determines the distance of the two plates from each other. This spring is sawed nearly into two, the lower part is broader than the upper, and acts upon the fear; the breadth of the spring is determined by the thickness of the fear itself. The upper

per part acts at the same instant on the bolt: it is rather longer than the main spring, and is placed to its work in the following manner: a stationary center is fixt in the outer plate, and which comes through the inner one, a little below and beyond the centers of the main spring. The left hand end of this spring is only bent round to form a circular hole to drop on the center already described. The bolt, when in its place, falls into the bed cut for it out of the metal on the top of the cock; so that if the finger is drawn over it, at the time it is in its place, it is perfectly smooth, and only appears as a part of the real thickness of the cock itself. This spring, which acts in the same instant upon the bolt and fear, is kept to its work by a moveable pin placed behind it, and which goes through the two plates, and is put in or taken out with the greatest facility, only by pressing with the fingers on the spring. When the cock is down, the bolt points downward, and remains a little below and beyond the angular point of its bed. The upper part of the spring already described, as sawed nearly in two, comes under the bolt, which it presses forcibly against the angular point of its bed;

the lower part of the spring, at the same time, presses against the foot of the fear, which it keeps forcing closely to its work, making it ready to fly into the notch, when the cock is drawn back far enough. Upon attempting to come to the half cock, at the same instant that the bottom spring conducts the fear into the notch for the half cock, the upper spring carries the bolt into its bed: the bolt goes into its place rather before the fear, if any one listens he will distinctly hear that they are separate, but if fifty thousand trials were made to get the fear in before the bolt, it would be found impossible. It is necessary that it should act so, for if the fear was permitted to take hold first, upon hearing it click many might imagine the bolt had also gone in, and by this means they would be deprived of its security.

It will be easily perceived by the application of this bolt, that it is impossible for the lock to be fired at the half-cock, for the center that the bolt goes upon must be broke away before it could be done, and this center is nearly as strong as the cock itself, so that, in this state, there can be no danger of the piece going off accidentally; for, I will en-
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gage to prove, that the musquet shall be let fall twenty thousand times if desired, and though it shall strike every time upon the back part of the cock (which is the most likely blow to drive it off) yet if the cock is strong enough to stand the blow, it will never go off.

As a further trial, the piece shall be at the half-cock, and, while it is in this state, a person shall take a hammer and strike upon the back part of the cock to drive it down; unless the blow shall be strong enough to knock away the strong center that the bolt is placed upon, it cannot be effected; and before this would take place, the probability is that the cock would break. This fact being ascertained, it will be admitted that I have removed the danger of firing at the half cock, in fire-arms of all descriptions, as the lock can be applied either to cannon or the smallest pistol that was ever made.

To shew how little this lock would be affected by wear, I will suppose the notch for holding the half cock to be completely worn away, even in this case, it would not be of the least disservice to my lock: for the bolt holds it at the half cock, and the notch is perfectly

perfectly ufeless; I put it in the cock, as it is very little trouble to make it, and it holds without the affiftance of the bolt, but if broke or worn away, the cock could not efcape the thicknefs of the fineft hair before it would be ftroingly bolted. Therefore neither the jar on the ground, the ramming down the cartridge, or a blow upon the cock, can fhake this bolt away.

Another advantage of weighty confideration is, that the cock, either purpofely or accidentally, may be driven from the half-cock, as nearly as poffible to the full cock, and fuddenly let go, it will not be of the fmalleft confequence, for it will return into the ftate it was in when bolted. This circumftance removes the chance of the accidents I named when enumerating thofe that are attendant on the prefent locks; fuch as belts being hung upon the mufquets, and haftily taken away, by which means the cock is drawn from the half towards the full cock, and then fuddenly letting it go, it infantly goes off. Men paffing through defiles, over uneven grounds, &c. the cock may get caught in the clothes of fome of the men, and the fame accident produced.

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In the fowling piece, as I have observed, a twig taking hold of the cock---striking it against any thing---or flipping down, has the same effect. Besides these accountable causes, many times they go off, without it being possible to assign any reason for it; and these are evils which clearly present themselves to our observation from the best fowling pieces that have been made.

I am willing to flatter myself, that mine will be thought an essentially valuable improvement. At the same time, it is perfectly simple, as it requires no thought whatever, which I will now prove: for the single spring, which is sawed nearly into two, does every thing of itself. In going from the half to the full cock, the cock itself, by the angular bed that is cut for the bolt, lies flat upon the upper edge of the bolt, and the cock cannot be moved in the least towards the full cock, without the angle of the bed turning the bolt completely away into the position for discharging. The difference of the position of the bolt in this state is, that it stands a good way backward from the cock, and points very much downward.

I am now come to that part, which will,
I think,

I think, be deemed perfect security. Every one knows how extremely dangerous locks are when at the full cock; indeed many seem afraid to go near a person who has one in his hand, in this state, it being known to go off so very easily. Instead of this being the case with mine, the same experiments may be tried when at the full cock, as before at the half cock; it may be let fall on the stones, or it may be struck with a hammer, but I will defy any one to do more than to force it out of the notch, at the full cock, but instead of firing it, like the locks now in use, all that will be gained by this experiment is, that it will return to its bolted state, the moment it is driven off, that is, to the half cock. I do not mean to say, that the lock cannot be injured, it certainly may be broken, I am sure nothing else can be done; for unless the bolt center is absolutely driven away, or the cock snapped, it can receive no injury from the blows applied to it. From this circumstance it is clear, that fire-arms having these locks will be so perfectly secure, that the most timid person may carry them; for a loaded pistol may be put into the pocket, at the full cock, without danger,
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and while in the pocket knocked off to the half cock, and no mischief will ensue ; or it may be full cocked and thrown across a room twenty times, and will no more fire than when struck on the cock, for the cock may be snapped in two, in fifty different experiments, and yet will not fire ; nothing but breaking the whole internal part away, can do it.

I have no doubt that it will be admitted that every degree of security requisite is thus obtained, and that no comparison can be made between my lock and those now used ; the one firing by the least accident, and frequently from a slight jar, while the other cannot be fired without using great violence to it. It is evident from its possessing this constant and invariable security, that twenty thousand may carry fire-arms together without the least probability of any going off accidentally ; indeed hundreds of musquets might be left on the full cock when loaded, and thrown into an ammunition waggon, without any danger arising from them.

I imagine my readers are rather at a loss how to account for the method by which this lock can be fired ; as it has been proved
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that it will not go off at the half-cock, neither can it be drove off from the full cock. The way it is done is as simple as any other part of the lock: at the end of the bolt is a piece of metal which goes from it, at right angles nearly, it is rather more than a quarter of an inch in length, and very narrow. On the top of the fear, nearly about the middle part, is a very small upright bit of metal which is filed in an angle to suit the tail of the bolt which moves over it. Though it cannot be fired by any blow, either at the half or full cock, it can be done with the greatest ease the moment the finger is applied to the trigger, for the motion of the finger when pulling, lifts up the fear to disengage it from the notch; by so lifting the little upright bit of metal standing on the top of the fear, and the bit coming downward, at right angles nearly from the end of the bolt, come in contact, and the lock is instantly fired; because by touching the trigger, the top of the fear takes hold of the bolt which is thereby held away and prevented from going into the bolting place; this is the way and the only way that it can be fired, for nothing but

but the two pieces coming into contact, can discharge it.

In these locks the expence of the détente, which is very considerable in the highly finished ones now used, may be saved; for these of mine will go off with as slight a touch of the finger as can be required, or they may be made to fire as hardly as any one thinks proper. It would not be of any disservice to the locks if they were all made to fire as easily as those now do with the hair triggers; the only care required with my lock, is to prevent any thing touching the trigger when at the full cock; in any other respect it is not of the least consequence its being so lightly held, for should a blow be given to the cock whilst in this state it will only return to the bolting place.

I trust that by this *self-acting* bolt, which requires no attention whatever, it will be allowed that I have given greater security to fire-arms than any ever yet made, and that I have not complained of the defective muskets used in the army without sufficient reason; but, at the same time, that I have shewn their defects, and cause of failure, I have pointed out a remedy almost infallible.

I have now rendered the hitherto dangerous musquet as safe for the poor soldier to carry, as the highest finished fowling piece or pistol will be to any gentleman: though a very great difference may be made in the price of the different pieces, on account of highly finished and ornamental workmanship, yet the security will be the same in the cheapest lock, as the dearest, provided the manufacturer makes use of good metal.

Although I had succeeded in this part of my endeavour for an improved gun-lock, I yet found a difficulty remaining which cost me great length of time to remove, and the various experiments on which were attended with considerable expence, I mean the defect of the *Flint*; for, as I have already observed, if the lock was ever so well constructed, or ever so certain in its effect, as to the operation of the springs, &c. yet, if the flint failed, the perfections of the lock would avail but little; and, that great numbers during an action cannot go on firing from this circumstance. Therefore, two causes are combined to produce what I have asserted relative to the number of men, that become useless during

during an action; the joint causes of bad locks and bad flints.

As I had succeeded in preventing the poor fellows from being shot, or maimed, by the accidental discharge of their pieces, I was particularly anxious to get over the difficulties attendant on the flint, in order to make the musquet more destructive to the enemy; and which I have accomplished in the following manner: In the bottom cheek or jaw, on which the flint now rests, are two upright bits of metal, one on each side of it, about a quarter of an inch in height, and through these two pieces a hole is made for an endless screw, which is, in substance, nearly equal to that which is used for pressing down the jaw for holding the flint: The upper jaw has a hole through it, nearer to the front part than that for the screw which forces it down on the flint. Between this jaw and the lower one, are placed two lesser ones, in size nearly equal to a six-pence, the upper one slides with a dove-tail on the axis of the under one; the lower one has in the bottom of it a very strong center, and at the back, which is circular, are cut some teeth. Towards the front part of the lower great jaw, a conical hole

hole is made to receive the center in the lower little jaw. As I have before observed, the little jaw slides by a dove-tail upon the lower one, and they form one strong center, which goes through the hole in the front part of the upper great jaw. When the little jaws are placed in this state, the threads of the endless screw fit into the teeth in the back part of the lower little jaw. The flint is then put between these little jaws, and is held down as usual by screwing down the upper great jaw. On the right-hand end of the endless screw is a milled-headed button, for the convenience of turning it, and such is the great effect of this screw, that though the flint be screwed down ever so hard, the endless screw will turn it with the greatest ease.

I shall just point out how firmly the flint is held, and how extremely strong every part of the cock is, though at the same time so very simple, that it is almost impossible to be out of order. The endless screw is doubly supported by the two strong upright pieces of metal, in which it is mounted, and the end of it is guarded by the milled-headed button, which is close to the side of the cock. The two little cheeks, or jaws, which hold
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the flint, are very strong and solid, and when put together, the center becomes circular, and goes through the hole in the top great jaw ; the strong center from the bottom of them goes into the conical hole in the bottom great jaw : in this state they are nearly hid under the two great jaws, and are doubly supported by the two strong centers. The teeth, in the back of them, receive the thread of the endless screw : but neither of these screws partake of the least action at the time that the flint strikes against the hammer ; for the blow is received by the two centers already described, which prevents the screws being touched.

There is very little difference in the appearance of the cock, though the advantages arising from the difference of construction are so material. For instance : since my flint may be turned more than 50° each way, when the front of it gets too thick, and is too much worn, the slightest touch of the endless screw will be found sufficient to bring into action a new part of the flint, and those sharp corners that have been already made by wear will be found to produce immediate fire in great abundance. Supposing that
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from the front I have turned to the left side of the flint, by the time that becomes worn, it will have been the means of restoring the front edge again, as the flint always breaks in scales, and leaves sharp angular points.

If the firing should continue a very great length of time, the men need only go on, from the front to the right hand edge, and may in this manner work their flint so long as a bit remains; but though I have mentioned that they may turn from the front to the left and right hand edge of the flint, this great motion is not necessary; for it is impossible to turn the endless screw a quarter round, without its having the desired effect.

Another great advantage is, that the motion of the screw may be made at the time of cocking, without a by-stander perceiving it; for the fore-finger lays upon the milled-headed button, and turns it sufficiently far; but if it should be necessary to put the thumb and finger to it, when the piece is held in the state for priming, the operation is so extremely quick, that it can hardly be noticed.

As soldiers are not well acquainted with screws, they frequently attempt to turn them the wrong way; but fortunately, in this case, where

where the endless screw answers such a desirable purpose, it is not of the least consequence, whether they turn it to the right or left, or whether they turn it little or much, the end must be answered if they turn it at all.

The effect from this moveable flint is surprising; for any old flint, be it ever so much worn, or if ever so thick, or if in size not bigger than a horse-bean, will answer as well as a new one that is ever so well made. The particular density of the fire it produces is infinitely stronger than any I ever saw; the same remark has been made by all who have seen its effect. This density of fire arises, in some measure, from the particular action that the main spring has, as well as from the advantage of always having sharp points in the flint; also, as the hammer plays on the top of the main spring, when the cock is discharged, the hammer flies up, which eases the top of the main spring, and the cock at the same time descending eases the bottom part of it, and the drawing stroke given to the hammer is much stronger than in those locks which have the main spring cramped. Such is the certainty of producing fire, that

it is but of little consequence whether the back part of the flint or the front be put to face the hammer, the first discharge will make some sharp points, and you may, with the assistance of the endless screw, go on wearing these away, and producing others, as long as a bit of flint remains.

Many are of opinion, that a single flint (if a good one) would last for a month, or longer; I cannot say how long one might last, as so much depends on the good quality of the flint; but from the great many experiments I have made with a lock so constructed, as the one now described, I have fired with one flint many thousand times, and it appeared to me, that a flint is very likely to last a month or longer. My object in stating this, is only to shew the certainty of being able to fire as long as any action can continue. But it is not necessary that such great œconomy should be used, as to try to make one flint serve so long: the men might at their leisure try some flints, and then put in one that they know will stand, by which means every man would be able to rely upon the goodness of his flint, when he went into action.

I must now observe of what essential consequence

sequence this moveable flint will be in real action; when, instead of men standing to be shot at, without being able to retaliate, from the badness of the locks, or the flint not giving fire, they will have nothing more to do, when they find that they have not sufficient fire from the flint, but just turn the endless screw a little, which will not interfere with any movement, nor retard them for a moment; by this means they will be enabled to continue their fire to a certainty: for I am convinced that locks made the same as I now have them to my own fire-arms, will not fail once in many thousand times, indeed I do not know that they would ever miss going off till they were completely worn out. Since from experience I find, that one flint may be fired so long a time, it amounts almost to a certainty, that a soldier might continue in action from morning till night, by merely turning his flint.

When we consider in what a very short time actions of the greatest moment are sometimes decided, the object of having fire-arms the effects of which may be relied on, in the instant, must be of the greatest importance. And if they are allowed to be of such great

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utility in a short action, how much more necessary must they be during a long one, when it amounts to a certainty, that so many of the present musquets must become useless. Besides the fire from the musquets, that have the perfections already named, must be so certain, and extremely heavy, that if men were well posted, it would be found a difficult matter to dislodge them. The effect produced by a heavy discharge of musquetry is too well known for me to say any thing further on the subject.

The various defects in the flints and lock, though generally remarked by Gentlemen of the army, have long remained with the apparent impossibility of a removal. To obviate these imperfections, ever appeared to me an object of the greatest importance; for it would not only save the lives and limbs of the men, but also be the means of rendering our army infinitely more powerful. And while contending with such an innumerable number of merciless savages, as our brave countrymen are and have long been opposed to, the improvement of fire-arms is most surely worthy the attention of any one, however dignified his station; for a gun-lock is
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not to be esteemed from its new construction, but from the effect and utility that must arise from its improvement.

It must assuredly be a gratification to any man, to reflect, that from an invention of his he has been the means of saving the lives and limbs of his fellow creatures, and that he has rendered his countrymen much more powerful against the enemy, and that while the soldier is carrying a musquet which is so secure to himself as to prevent accidents, it will be, at the same time, found more destructive to the enemy.

I have had the satisfaction to meet with but one opinion, from every military man, as well as private persons, who have seen my lock; for all wish its universal adoption, and have most readily admitted, that it possesses every advantage which I have now stated. Should it meet with the same opinion from the public at large, it would afford me much pleasure, and, I shall think myself amply repaid for the trouble and great expence that I have been at in the attempt to improve fire-arms. In my lock so little is the chance of any spring breaking, that all the workmen, whom I have consulted, are of opinion that
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this accident will never happen*, unless there is a flaw in the metal which cannot be perceived. With regard to the bolt and fear spring, the action upon it is so very little, that it might be worn, as long as the metal will last, without any chance of its breaking: so easily is the required effect produced on the bolt, which gives such certain security to the lock, that if the spring was taken away, and a common hair pin twisted round the center, for a spring, it would have the desired effect of conducting the bolt into its place. Again, the chance of any thing happening to any other part of the lock is very little; for the fear and bolt are two solid lumps of metal, which move on centers, nearly as strong as the cock itself. The main spring, independently of its being ~~more~~ so much more open than any ever yet applied to a lock, has a further security, from having a very strong double center going into the two plates; be-

* To shew how little danger there is of the most delicate of the springs in my lock breaking, it will be only necessary to observe that the tension of the main spring is $\frac{1}{3}$ less than that of the common locks; and the variation of the bolting spring, between the full cock and discharge, is not more than one thousandth part of its length.

tween these two plates the lock is completely boxed up, two small hooks turn down on centers, which come through the inner plate, so that no part can move from its work.

The provision for turning the flint is as strong as any part of the lock, and may, I am sure, be worn a great number of years without being out of order. The milled headed button upon the endless screw, lies close to the side of the cock, and not the least in the way, but answers the good purpose, in some measure, of preventing the men from cutting their fingers by the edge of the flint.

To prevent the powder in the pan from flashing in the men's faces, which is very liable to make them flinch, and by that means alter the direction of the piece (for some small particles of the powder, when discharged, strike against the men's cheeks, and make them sore, producing a very painful sensation like pins running into the face) I have contrived three different sorts of screens, for the inspection of the Board of Ordnance, which, besides the advantage of preventing the powder from flashing in the men's faces, will be of great use in windy weather; one of them slides, and the other

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two fold down by hinges, for the more ready convenience of wiping the pan, &c.

The pan from the outside has a descent all the way to the barrel, to prevent as much as possible the effects of bad stocking, for many of the musquet locks are placed either too far backward, or forward, or too much below the touch hole, by which means the powder frequently flashes in the pan, without communicating with that in the chamber. In order to prevent this, I have given a very considerable descent, as well as length and breadth, to the pan, by which means as soon as the piece is primed, the powder will run down to the touch-hole and readily communicate with that in the chamber; for before the cartridge can be emptied into the barrel, some of the prime will have made its way through the touch-hole, which will ensure the communication. Should my lock be badly stocked, the chance of flashing, without firing the piece, will not be very great, as there must be a considerable depth of powder in the pan, close round the touch-hole, in consequence of the descent that is given to the pan.

The moveable flint and screen may be applied to the fowling piece, and to the smallest pistols,

pistols, in both of which, I think, they will be of great utility: for it frequently happens that a bird gets away from the sportsman from the flint not giving fire, but a quarter turn of the endless screw will give a new edge, and, it can be done so instantaneously, that the bird will not have time to get away; besides, it saves the trouble of changing the flint, which takes up time, and may be the means of preventing the sportsman coming up with his game. With regard to pistols, I should certainly advise the adoption of this moveable flint, for in travelling, many have been attacked and have found their flint fail them, but by the endless screw, they may in a moment, have the effect of a new one produced, and this additional work to the cock does not take up any more room in packing, than the pistols now in use. With regard to the expence that will attend the making the improvements in my lock I find the difference will be very trivial, for though there is the additional work of bolting, moveable flint and screen, yet the extra charge will be so small in addition to what is now paid for those that are so dangerous,

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that

that it cannot be thought an object when compared with the security and efficacy.

I have submitted the lock to the inspection of their Royal Highnesses the PRINCE of WALES and DUKE of YORK for their opinion of it; also to his Grace the DUKE of RICHMOND, Marquis CORNWALLIS, Earl of HARRINGTON, Sir WILLIAM FAWCETT, and a great many general officers, who all most highly approved of it, and said every thing that was possible in praise of its great security and simplicity, and gave, as their opinion, that it would answer, in every respect, the intended purpose. I cannot help remarking the particular attention paid to it by the DUKE of RICHMOND, who offered to try it to any extent thought proper; though he remarked, at the same time, that the advantages arising from it were sufficiently obvious from the trial of a single one. To have the approbation of one of the first judges in the kingdom, which his Grace, I believe, is universally acknowledged to be, could not but be highly flattering. Immediately after this, his Grace quitted the Ordnance; but the Marquis CORNWALLIS has been equally polite in his attention, and expressed his regret that it had not been brought

brought forward in an earlier stage of the war. In consequence of an order from his lordship, a board of officers was held at Woolwich, and the lock particularly examined, the result of that examination was the most entire approbation of it, infomuch that the greatest part of the board said, they wished there was an act of parliament to oblige every one who carried fire-arms to have a lock of that construction, and also agreed as to the advantage, security, and decided superiority which it would give the British soldier over the enemy.

By an order from the Board of Ordnance, there are now some making for a trial at Woolwich; the only doubt entertained, by that board, of their universal adoption was relative to expence*, from their having more work in them, in consequence of the moveable flint, than in those now used, which

* Though the expence for the many thousand locks required for the use of the army and navy may at first sight appear a weighty objection to immediately adopting the improvement—yet if we admit that 3000 men thus armed, will be enabled to produce as heavy a discharge from their musquets as 4000 with the present locks, the expence in the locks will appear trifling indeed, in comparison with that of raising and maintaining the proportion of men, who at present are unable to be of service in action from the defects in their fire-arms.

made them apprehend that they could not be made cheap enough to be purchased by Government. But, I find, from those manufacturers employed, that they will cost Government very little more than what is paid for those of the latest improvements, which possess not the advantages described in mine*.

* The patent locks in the end will be found infinitely cheaper, as I am persuaded that they will wear many years longer than any yet invented; as a proof that my opinion is well founded, if the notch from the half-cock be from length of service worn away, it will not in the least affect my lock, for, as I have already observed, the bolt will keep the cock at the half-cock. But, if any of the locks that are now made, should have their notches worn away, they would be rendered totally useless, and, a long time before their condemnation, their use must be attended with great danger, from being extremely liable to go off accidentally. Even when new, all the security rests upon the point of the fear (a piece of metal very little thicker than a six-pence) stopping in the notch for the full and half-cock, and when this piece is hardened it is more liable to break; or should the soldier, through haste, omit to clear the lock entirely of the brick-dust he has been scowering it with, the place in which the fear should rest will probably be so filled as to prevent the point taking a sufficient hold. How extremely different is the security in my lock compared with this, for if the half cock bent is worn away, the bolt will hold it; and if the full cock is so much worn, that the cock may be shook off, it will return to the state it was in when bolted. Therefore from the time of its being first used, until its condemnation it will be equally secure and equally fit to perform the service required of it.

I have

I have given permission during pleasure, to a person of the name of *Fisher* (a man of great ingenuity, one of the first barrel makers in the kingdom) to manufacture and sell this lock of my invention, who will have them made immediately under his own inspection, and on his premises, N^o 204, High Holborn, nearly facing Southampton Street, Bloomsbury-Square, as well as every other part belonging to the gun.

From the construction of these locks, I am confident the first cost will be the only expence attending them; for unless great violence is used, it is next to an impossibility that any thing can be amiss with them. They will be made much cheaper than the double bolting locks now used to guns for ball-shooting. No guns that are made for shooting with ball can be used without great danger, unless they have a bolt put to them; for since the ball in rifle-barrels requires so great a blow to drive it down, unless the precaution of bolting is taken, there must be very great danger of jarring the cock out of its place, and to have this security it is necessary to remember the bolt when going to fire. In mine no recollection is necessary, and it is more firmly bolted

bolted than the present double bolting locks, as my bolt is a great deal stronger, and acts of itself; therefore, a rifle barrel gun or pistol with my lock may be as safely loaded as any other, and the lock will not cost any thing near so much money.

Having mentioned the particular defects that have ever been attendant on all kinds of fire-arms, and the advantages that will result from the general use of my improved lock, I shall leave to the public to decide how far I have proved my assertions, with respect to the failures and accidents that have happened from the locks now in use; and also, as I have given my lock into the hands of a person with permission to manufacture it, the public may now have it in their power from experience to determine on the truth of what I have advanced.

The person who is to attend to the manufacturing of the lock, I have made particularly acquainted with the principle, which he perfectly understands; and as it is for his own interest to see that they are properly made, no doubt the public will have them in the state that I wish them to be. Should Government give them universal adoption, I shall

I shall attend to see that they are properly manufactured, in order the more certainly to attain that important object, which has so many years engaged my attention, namely, the removal of defective fire-arms from the Army and Navy. With regard to private consumption, I must leave the goodness of the manufacture of them to the judgment of the public, and content myself with the pleasing reflection, that if they become of general use, I shall have been the means of preventing many dreadful accidents. There is one part of the community whose thanks I shall undoubtedly meet with, and which will not be the least pleasing to me; those ladies, whose husbands and relations either from duty or pleasure carry fire-arms, will not feel that anxiety which they have constantly been accustomed to experience, when they are sensible of the difference of the security arising from the use of my lock. The sportsman need no longer be debarred the pleasures of society in his rural amusement, the danger hitherto attendant on shooting parties being removed; for, unless any one should be so perfectly careless, as to carry his gun on the full cock, and let any thing touch and suspend the trigger, it cannot

not by any means be fired, since, as I have before observed, no blows will fire it; the sportsman may go through woods without danger, and need not fear any accident will happen, though a twig should lift the cock of his fowling piece out of the bent, and suddenly let it go, he may rest assured that it will only return into the bolting place; neither need he fear, though he should slip down with the piece in his hand, for no mischief can possibly accrue from it. I only request of any gentleman to compare the security of the two locks together, and I am confident he will be astonished, that so many years have past, and fire-arms have remained to this day so extremely dangerous; the more he attends to the construction of the two, the more fully will he be convinced of the extreme danger and uncertainty attendant on the one, and the great security that there is in the other. Since I made these improvements, I am much surpris'd after all my attention, that they never struck me before; they are so very simple, that it appears wonderful no one before ever discovered them.

For the information of those gentlemen who reside at a great distance from London,
I must

I must inform them, that they will meet with an additional expence in having this lock put to their fowling pieces and pistols, as they require new stocking, the lock requiring more wood than in the present stocks. As there is no projection of feather spring on the outside of the lock, the whole work being between the two plates, and it is let into the wood, it is much more easily stocked than the locks now used, and requires no carving when stocked, both sides being perfectly flat; it is nothing more than letting a plain plate into the wood, and may be done by any carpenter; the same furniture now upon any fowling piece will of course do again; therefore the expence will be the value of the new stock, and the labour upon it. I have had locks put to some favourite barrels of mine, and been obliged to pay for new stocks; but from the opinion of joiners, by piecing, old stocks may be made serviceable.

Should any accident happen to the lock, it need not be put aside, for a gentleman has only to send to the person that made him the lock, and he can let him have any part that he may want, as they will all be made to fit one gauge: for instance, the main spring,
K fear,

fear, bolt, &c. proving defective, he need only send for any of those separate parts, which he himself can put to his lock as well as a gun-maker, for they will fit as well as if it was a new lock.

One convenience found in carrying a fowling piece having one of these locks, which precludes the danger of its going off accidentally, is, that it may be carried in any position whatever. The bolt will be found very useful also in the army, with regard to the centinels ^{support.} ~~carry~~ing arms, as agreeably to the new exercise, the men let the piece rest by the cock upon their arm. Now considering how weak the notch at the half cock is, they are ill calculated for being used in this manner, particularly where a false alarm would be productive of ill consequence.

This lock will be found peculiarly convenient for taking to pieces, since there is not a single screw in it; the center on which the hammer moves is only a strong pin put thro' a hole in the foot of the hammer, and which goes through the thick part of the outside plate: when the two little hooks, which hold on the inner plate, are turned away, and the main spring let down, the lock immediately falls

falls to pieces, and may be wiped out in one minute. The vice, which is for the purpose of forcing up or letting down the main spring, has on the top of it a flat screw turner, and in the end of it a round one, for turning the screw which presses down the jaw on the flint.

There remains another observation to be made relative to the position of the fear: if any one pays attention to its position in the present lock, he will perceive, that the fear and roller which is the bottom of the cock, are nearly circles, co-incident with each other; and that the only security which the lock has, arises from the point of the fear stopping in the notch or bent; they will at the same time perceive, with what little wear the roller will be enabled, by the strong action of the main spring, to escape from the hold that the fear has upon it. If attention be paid to the position that my fear stands in, he will observe that it points much upward and towards the center, and that my notch in the cock and the fear, are far from being circles that are co-incident, for which reason if my lock had not the self-acting bolt it would be considerably safer than those now used,

merely from this difference of the fear alone. One of the most essential advantages that attends on the bolt is, that it requires no thought whatever; for the lock cannot be half-cocked without bolting it, neither can it be full cocked without removing the bolt, and even then it cannot be discharged by accident, nothing but touching the trigger will effect it; therefore it does not signify, at the moment of danger, whether a man be alarmed or not, if he but cocks his piece he does all that is required. How extremely different, then, is the effect of this *self-acting bolt*, from those bolts ever yet applied, for with them it is necessary to remember to bolt for security, and to unbolt for service, since, if you forget to bolt, you are without your security, and if bolted, and attacked, and are agitated, it is fifty to one but you forget to unbolt it; therefore the remedy is worse than the disease, for a highway-man who would have, perhaps, quietly taken your purse, and gone off, when he finds that you have presented your pistol to shoot him, may be inclined to try the effect of his upon you, and as he, in all probability, does not carry stop-lock pistols, you may, therefore, stand a chance of
getting

getting shot in consequence of the badly applied security in your fire-arms.

I shall conclude my observations with remarking how extremely useful musquets must be that can be relied upon firing, in defending buildings when a party may have taken post, in firing through loop holes, &c. on board a ship, in close action through port holes, or from the tops. I appeal to the officers of the marines, for their sentiments of ship's musquets, and also their opinion on the effect likely to be produced by the adoption of mine. The musquets used in the sea service, instead of being so uncertain in their effect, ought to be the most certain that can be had, as from the heeling of the ship great precision is required. Since locks are now universally fitted to cannon, these I have described, in point of security and certainty of firing, must be, I think, preferable to any used for that service, and as all the advantages attending the musquet locks are also attached to the cannon, I shall say nothing more on the subject, than that His Royal Highness the PRINCE of WALES, who has paid more than ordinary attention to locks, and has been highly pleased with mine, was
the

the first person to remark its density of fire, and from its extreme quantity, advised a course of experiments to determine in what state of dampness powder might be fired---the result of which, together with the mathematical principles of the lock, I hope shortly to communicate to the public.

FINIS.

A P P E N D I X.

HAVING explained the construction of the self-acting and detached bolting-lock, I must beg leave to describe a lock on the same principle, only simplified in order to save workmanship, in case the price of it might be thought too much for general adoption in the army and navy; which has all the advantages of the one already described.---In page 46 I observed that I had put the notch or bent for the half-cock, as it was hardly any trouble to make; but that it was by no means necessary, as the bolt itself answered the purpose of the half-cock bent; and in page 68 I remarked, that since the utility of my new lock was admitted, the only doubt that remained with regard to its adoption, was respecting the price for making it.

To remove this difficulty, I have had some locks made with less work in them than those

first described, and yet retaining every perfection, although much manual labour is saved, by which means they will be sold for less money; as the materials for the lock, exclusive of workmanship, are of very little value; the high price can only arise from the time in manufacturing; and as Government, for both army and navy require so great a number, any reduction in price becomes an object: also many individuals are obliged to carry fire-arms, and cannot afford to give the high price that is now paid for highly finished pieces. I have therefore had some made with the bolt and fear in one piece, which have all the advantages of the more highly finished one already described. For cannon I prefer this simplification to the detached bolt, on account of its superior strength. The lock is made in the following manner:----The plates, cock, hammer and main-spring are the same as in the other, but it has no separate center for the bolt; the back of the cock is cut completely through, for nearly half an inch in width. The fear and bolt being in one piece, go into this bed, which is of the whole thickness of the cock. It is thrown into its place in the same manner as that in the other lock. The fear-spring is
of

of the same length and strength as the other ; but is not sawed nearly into two. Upon attempting to half cock, the *bolt* or *sear*, is thrown into its bed, and to prevent its being removed out of its place, by any other means than the method described in the other lock, viz. by the angle of the bed pressing on the top of the bolt, a concave cut is made in the bottom of th bolt, which fits on a convex one in the side of the bed made in the solid cock, partly in the shape of the letter S.---- Therefore, when the bolt is thrown into its place, the convex part of the cock lies in the concave part of the bolt : consequently, on any blow being applied to the cock to drive it down on the hammer, the bolt will only be pressed more forcibly into its bed, and cannot be removed by such violence, unless it was to break away the convex part of the bed, which being full as strong as the bolt center in the former described lock, the cock would sooner break than this part of the bed. The full cock bent is cut as in my other, in the back part of the cock ; but instead of holding by the point of the sear, it falls into a notch cut nearly in the middle part of the top of the bolt, and is discharged by touching the trigger,

first described, and yet retaining every perfection, although much manual labour is saved, by which means they will be sold for less money; as the materials for the lock, exclusive of workmanship, are of very little value; the high price can only arise from the time in manufacturing; and as Government, for both army and navy require so great a number, any reduction in price becomes an object: also many individuals are obliged to carry fire-arms, and cannot afford to give the high price that is now paid for highly finished pieces. I have therefore had some made with the bolt and sear in one piece, which have all the advantages of the more highly finished one already described. For cannon I prefer this simplification to the detached bolt, on account of its superior strength. The lock is made in the following manner:----The plates, cock, hammer and main-spring are the same as in the other, but it has no separate center for the bolt; the back of the cock is cut completely through, for nearly half an inch in width. The sear and bolt being in one piece, go into this bed, which is of the whole thickness of the cock. It is thrown into its place in the same manner as that in the other lock. The sear-spring is
of

of the same length and strength as the other ; but is not sawed nearly into two. Upon attempting to half cock, the *bolt* or *sear*, is thrown into its bed, and to prevent its being removed out of its place, by any other means than the method described in the other lock, viz. by the angle of the bed pressing on the top of the bolt, a concave cut is made in the bottom of th bolt, which fits on a convex one in the side of the bed made in the solid cock, partly in the shape of the letter S.---- Therefore, when the bolt is thrown into its place, the convex part of the cock lies in the concave part of the bolt : consequently, on any blow being applied to the cock to drive it down on the hammer, the bolt will only be pressed more forcibly into its bed, and cannot be removed by such violence, unless it was to break away the convex part of the bed, which being full as strong as the bolt center in the former described lock, the cock would sooner break than this part of the bed. The full cock bent is cut as in my other, in the back part of the cock ; but instead of holding by the point of the sear, it falls into a notch cut nearly in the middle part of the top of the bolt, and is discharged by touching the trig-

ger ; but like the other lock, any blow on the cock when at the full, will only make the bolt return to its place ; that is, the half cock.--- The effect produced is exactly the same in both locks, and the security the same ; my only object by this simplification has been œconomy, which by this means is attained ; as the workmanship of the detached bolt and its center, and also the sawing the fear and bolt-spring nearly into two, are not requisite. I have made the lock answer every purpose without the fear, as the bolt does all that is necessary. The difference between the two locks is, that in the former the bolt is detached, and when cocked, removed, and has not any thing to do with the fear-spring ; for at the time of discharging the bolt is thrown off, and has no more effect on the lock, than if it was not there : the internal part is more elegant, and has greater pains bestowed on it in workmanship, on purpose to make it a perfectly detached bolt. Much will depend on fancy, as some, no doubt, will prefer the detached bolt, and others the one just described, on account of its cheapness. With regard to my own opinion, I can only observe that each possesses the same security and advantages.

I thought

I thought it absolutely necessary to bring both to the greatest perfection in my power, before they were delivered to government, and submitted to the opinion of the public. The last described lock is much more easily made, and is so extremely strong and simple, that where it is necessary to attend to œconomy with respect to fire-arms, I certainly should recommend the latter; but I am persuaded many will approve of the detached bolt, therefore time must prove which will become the greatest favourite. It may be proper to mention the particular action that the bolt has in the last described lock: a common trigger requires to be moved much further than in any other lock, before it can be discharged; this is an objection which I foresaw would be made; I therefore determined on removing it before I delivered them with the detached bolting ones to government. The cannon locks, though made the same, have not this defect, as they require to be fired by a pull on either side, as well as directly backward: this being done by a string, the action is always stronger than that of the finger, since a pull of the string always lifts the bolt much further than is necessary for discharging. With regard

gard to musquet and pistol locks, I removed the objection by the most simple and infallible method ; it is done by making a small hole through the trigger into which the arm of the bolt or fear goes ; therefore all the action that the bolt has in moving to the half and full cock the trigger has also. When at the full cock, the slightest motion that can possibly be conceived, instantly discharges it, for the trigger requires to be moved no farther than for the bottom part of the hole, which is made in it, to act on the arm of the bolt or fear ; so that these locks, instead of requiring as much action as common locks, may be made to discharge as easily as the most delicate hair trigger ; or to require as hard a pull as any person may think proper ; by this simple method the expence of hair triggers may be saved. Although the trigger, by being connected with the bolt, discharges the lock so easily at the full cock, yet at the half cock a pull of the trigger has not the least effect, for as I have already observed, it only presses the convex part of the bed in the solid cock, into the concave part of the bolt. To discharge the lock while at the half cock, would require these parts to be broke away ; therefore it has all the security

rity of the detached bolt; yet it may be said in favour of the detached bolt, that if the fear was to break, no accident could happen, as the bolt from acting independently of it, would still, notwithstanding the accident to the fear, give perfect security to the lock; this is certainly the case, but though the bolt in the one now described is not detached, yet it is a self-acting bolt, and is so extremely strong, that it is much more likely that the cock would break a hundred times sooner than this bolt or fear, which is one solid piece of metal nearly half an inch in thickness, and holds the cock at the half cock. This saving of expence has been my only object in attempting to save workmanship. I did not conceive it of such immediate concern to individuals, but with respect to government, I was particularly desirous to reduce the price of the lock so low, that government should have every advantage arising from this improvement in fire-arms, without the expence attending its adoption becoming a national concern; with regard to the extremely great advantage that our arms will have over those of the enemy from the use of these locks, I am convinced that a trial is only wanting to carry conviction. I have great
reason

reason to imagine that I shall very soon be enabled, from having gun barrels manufactured agreeably to my direction, to make some improvements in them ; already I have succeeded in several experiments, and if I am equally fortunate in my future attempts, and the improvement appears likely to be of service to the army, I shall submit them to government.

F I N I S .



